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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,329	01/10/2006	Ronaldus Maria Aarts	NL03 0848 US1	7462
24738 7590 07/09/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS PO BOX 3001 BRIARCLIFF MANOR, NY 10510-8001				
EXAMINER ROBINSON, RYAN C				
ART UNIT 2615		PAPER NUMBER		
NOTIFICATION DATE 07/09/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

# Office Action Summary

## Application No.

10/564,329

## Applicant(s)

AARTS ET AL.

## Examiner

RYAN C. ROBINSON

## Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 8-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 1/10/2006

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-16 are pending in the current application.
2. The examiner acknowledges the preliminary amendments filed on 1/10/2006.
3. Claims 1-16 have been amended on 1/10/2006.

***Priority***

4. This application claims priority from PCT application number PCT/IB2004/051163, filed on 7/08/2004, which claims priority from European Patent application number 03102184.3, filed on 7/16/2003.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Halchuck, International publication No. WO 86/01362, published on 2/27/1986 (hereby Halchuck).

7. As to claim 1, Halchuck teaches a panel-shaped acoustic wave generator (14) comprising: at least one plate (20) acoustic transducer means for of causing said plate to vibrate (Page 4, lines 3-6); feedback means for generating a feedback signal (42) and comprising a motion sensor (32) having at least one sensor component mechanically coupled to said plate (20).

8. As to claim 2, Halchuck teaches a second plate (24) arranged substantially parallel at a distance from each other; said motion sensor comprising a first sensor component (32) mechanically coupled to the first plate (20) and a second sensor component (22) mechanically coupled to the second plate (24). The first sensor component (32) is disclosed as producing a voltage with respect to (22) (Page 4, lines 6-9) which is mechanically coupled to second plate electrode (24) via (18).

9. As to claim 3, Halchuck teaches a reference component (22) cooperating with said one sensor component (32), said reference component preferably being a third plate (22) arranged substantially parallel to said one plate (20) at a distance therefrom. The first sensor component (32) is disclosed as producing a voltage with respect to (22) (Page 4, lines 6-9), corresponding to a reference component. The reference component (22) is a third plate, in between the first electrode (20) and the second electrode (24).

10. As to claim 4, Halchuck teaches that at least one sensor component (32) is integrated in the corresponding plate (20).

11. As to claim 5, Halchuck teaches that the feedback means (32) are adapted to generate a feedback signal representing a relative motion of at least a portion of the first plate with respect to at least a portion of the second plate (Page 4, lines 6-12). The sensor (32) is disclosed as generating a voltage proportional to the magnitude of the movement of the driver, which includes the first plate (20) and the second plate (24).

12. As to claim 6, Halchuck teaches that the feedback means (32) are adapted to generate a feedback signal (34) representing a relative motion of at least a portion of said plate (20) with respect to said reference component (Page 4, lines 6-12). The sensor (32) is disclosed as generating a voltage proportional to the magnitude of the movement of the driver, which includes the first plate (20) and the second plate (24).

13. As to claim 13, Halchuck teaches that the wave generator (14) is subdivided into a plurality of sections, each section comprising an associated acoustic transducer means (20) and at least one associated feedback means (32) wherein a drive signal for an acoustic transducer means of a section (44) is generated on the basis of the feedback signal (34) from the corresponding feedback means (Page 4, lines 13-17).

14. As to claim 14, Halchuck teaches an acoustic driver comprising: a signal input for receiving an input signal (36), a feedback input (40) for receiving a feedback signal (34) from the feedback means (32), a drive output (44) coupled to an input (26) of the

acoustic transducer means (26) the acoustic driver being adapted to generate at its drive output a corrected drive signal on the basis of the input signal and the feedback signal (Page 4, lines 13-17).

**15. Claims 1-3, 5-7 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda, US Patent No. 4,488,012, published on 12/11/1984 (hereby Matsuda).**

16. As to claim 1, Matsuda teaches a panel-shaped acoustic wave generator (Fig. 13) comprising: at least one plate (11), acoustic transducer means for causing said plate to vibrate (17); feedback means for generating a feedback signal (Col. 3, lines 37-39). Matsuda suggests that a feedback signal is supplied from the sensor (12d, 12e). The motion sensor (12d, 12e) has at least one sensor component (12d) mechanically coupled to the plate (11).

17. As to claim 2, Matsuda teaches a first plate (11) and a second plate (12e) arranged substantially parallel at a distance from each other; said motion sensor comprising a first sensor component (12d) mechanically coupled to the first plate (11), and a second sensor component (12e) mechanically coupled to the second plate. The second sensor component (12e) is connected to the plate structure mounted to driver (17).

18. As to claim 3, Matsuda teaches a reference component (12e) cooperating with said one sensor component (12d), said reference component preferably being a third plate arranged substantially parallel to said one plate at a distance therefrom (Col. 3, lines 16-19). The reference component is disclosed as being in a confronting relation to the sensor component, corresponding to the components as substantially parallel.

19. As to claim 5, Matsuda teaches that the feedback means (12d, 12e), are adapted to generate a feedback signal representing a relative motion of at least a portion of the first plate with respect to at least a portion of the second plate (Col. 1, lines 63-65). The feedback means are disclosed as detecting an acceleration of the diaphragm.

20. As to claim 6, Matsuda teaches that the feedback means (12d, 12e), are adapted to generate a feedback signal representing a relative motion of at least a portion of the plate with respect to said reference component (Col. 1, lines 63-65). The feedback means detects an acceleration of the diaphragm on the node line, which corresponds to at least a portion of the plate.

21. As to claim 7, Matsuda teaches that the motion sensor is a capacitive sensor (Col. 3, lines 12-13).

22. As to claim 15, Matsuda teaches a method for generating sound using a panel-shaped acoustic wave generator comprising two plates (12d, 12e) arranged

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substantially parallel at a distance from each other; the method comprising the step of generating a feedback signal representing a relative motion of at least a portion of one of said plates with respect to at least a portion of the other of said plates. (Col. 3, lines 37-39). Matsua suggests that a feedback signal is supplied from the sensor (12d, 12e).

23. As to claim 16, Matsuda teaches that the feedback signal is generated using a capacitive motion sensor (Col. 3, lines 12-13) having sensor components (12d, 12e) mechanically coupled to said plates.

### ***Claim Rejections - 35 USC § 103***

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda, US Patent No. 4,488,012, published on 12/11/1984 (hereby Matsuda).**

26. As to claim 14, Matsuda teaches a wave generator (Fig. 13). Matsuda does not specifically disclose a signal input for receiving an input signal, a feedback input for receiving a feedback signal from the feedback means, a drive output coupled to an input of the acoustic transducer means, and that the acoustic driver is adapted to generate at



its drive output a corrected drive signal on the basis of the input signal and the feedback signal. Matsuda is directed to the sensor components of a loudspeaker.

However Matsuda discloses that the speaker is a motional feedback (MFB) loudspeaker (Col. 1, lines 5-6). Matsuda further discloses that a MFB loudspeaker has an amplifier, which corresponds to a signal input, due to the fact that amplifiers inherently have inputs for an input signal, and a feedback input back to the amplifier, corresponding to a feedback input for receiving a feedback signal from the feedback means (12d, 12e). Furthermore, Matsuda teaches a drive output coupled to an input of the acoustic transducer means, which is the output of the amplifier. The motion of the loudspeaker is controlled by feeding back a voltage proportional to the motions of the vibrating element, which corresponds to the acoustic driver being adapted to generate at its drive output a corrected drive signal on the basis of the input signal and the feedback signal (Col. 1, lines 9-13). Therefore it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include the driver components in a MFB loudspeaker.

***Allowable Subject Matter***

27. Claims 8-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, Halchuck and Matsuda do not teach that the first and second plates comprise plates of a display device.

***Conclusion***

The prior art made of record

- a. WIPO Publication Number **WO 86/01362**
- b. US Patent Number **4488012**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571) 270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni, can be reached on (571) 272-7505. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Robinson

/Suhan Ni/  
Primary Examiner, Art Unit 2614